# AST Classifications Index


**Subgroup 770-00 through 770-99**

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# AST Subgroup Description

## AST: 77000 - 77099
## Management Subgroup

## AST - Executive Management: 770-01
## OPM Title - Executive Management: GS-801-0

1. This specialty includes positions which are in the top echelons of the agency, i.e., Associate, Deputy Associate, and Assistant Administrators of Headquarters major program offices and above, as well as Director, Assistant, Deputy, and Associate Deputy Directors of Centers and other installations and above. These positions are concerned with accomplishing the agency's overall mission and goals.

2. Incumbents in these positions in this specialty require broad professional engineering knowledges.

# AST - Executive Management: 770-02
# OPM Title - Executive Management: GS-1301-0

1. This specialty includes positions which are in the top echelons of the agency, i.e., Associate, Deputy Associate, and Assistant Administrators of Headquarters major program offices and above, as well as Director, Associate, Assistant, Deputy, and Associate Deputy Directors of Centers and other installations and above. These positions are concerned with accomplishing the agency's overall mission and goals.

2. Incumbents in these positions in this specialty require broad professional scientific knowledges.

# AST - Project Management: 770-10
# OPM Title - Project Management: GS-801-0

1. This specialty includes positions responsible for the overall technical and administrative direction of projects assigned to NASA centers. Center management usually establishes an organizational entity or other functional grouping providing recognition of this project responsibility. These project offices or other organizational entities are typically and relatively small in size, and typically draw upon other "line" or "functional" organizations or contractors for support, e.g., feasibility studies, design, development, applied research, fabrication, integration and test, and operations, but may perform one or more of these functions within the project organization.

2. For the purpose of this specialty definition, a "project" is an undertaking with a scheduled beginning and end for the purpose of accomplishing a specific agency objective. This typically would include the design, development, and demonstration operation of a new equipment system or major subsystem hardware which would require several years to complete. Applied research, technology development, test and evaluation, and other related functions performed by other line organizations in support of a project" should be assigned to other appropriate NASA specialties, such as Fluid Mechanics, Heat Transfer, Liquid Propulsion System, and Launch and Flight Operations. Similarly, managers of subfunctions within a project reporting to the project manager should be assigned to the specialty appropriate for the work.

3. Project managers assigned to this specialty are responsible, personally or in directing others, for the following typical functions:

a. Determination of the project requirements byparticipating in committee and panel meetings with agencypersonnel.

b. Developing a staffing plan, establishing organizational andfunctional assignments, selecting and appointing personnelto key positions, and monitoring the position management andstaffing plans.
c. Preparation of cost estimates for budget purposes.
d. Determination of the requirements for development work, support services, data handling and reduction, and launchand tracking and supporting services.
e. Preparation of schedules for the complete project andestablishment of a system to review and maintain a record ofthe project's status.
f. Negotiation for service with other NASA and Government agencies to accomplish the project.
g. Determination, or assisting in the determination, of what phases of the project will be performed by contractors, andreviewing request for bids, contractors, proposals, and contract specifications.
h. Participation in design reviews, contract negotiations, andtechnical and business discussions with NASA Headquarters and contractors.
i. Continual review and assessment of the effectiveness ofcontractors in meeting the technical and administrativerequirements of the contract.
j. Participation in project reviews and readjustment of money,schedules, and work for accomplishing the project.
k. Resolution of interface and integration problems relating tothe project and coordination of the several phases of theproject.
Translation of program guidelines and functioning allocations into suitable statements of work for implementing project activity.

4. AST-Project Management positions have on their staffs subordinate positions which are responsible for discrete phases of the project, either technical, such as Control and Guidance Systems or functional, such as Flight Systems Test. Other subordinate positions may be responsible for experimental payloads or the research/science which the project is intended to conduct.

5. Work in this specialty requires the application of professional engineering and scientific knowledges and skills associated with the technical aspects of the project, coupled with managerial and supervisory skills required in developing project plans, resources and programming plans; developing and execution of budget plans; providing direction and guidance to supporting organizations and contractors; evaluating project progress and establishing schedules; performing supervisory and personnel management functions for

staff reporting directly to the project office; and other related managerial functions.

# AST - Project Management: 770-11
# OPM Title - Project Management: GS-1301-0

1. This specialty includes positions responsible for the overall technical and administrative direction of projects assigned to NASA centers. Center management usually establishes an organizational entity or other functional grouping providing recognition of this project responsibility. These project offices or other organizational entities are typically and relatively small in size, and typically draw upon other "line" or "functional" organizations or contractors for support, e.g., feasibility studies, design, development, applied research, fabrication, integration and test, and operations, but may perform one or more of these functions within the project organization.

2. For the purpose of this specialty definition, a "project" is an undertaking with a scheduled beginning and end for the purpose of accomplishing a specific agency objective. This typically would include the design, development, and demonstration operation of a new equipment system or major subsystem hardware which would require several years to complete. Applied research, technology development, test and evaluation, and other related functions performed by other line organizations in support of a project should be assigned to other appropriate NASA specialties, such as Fluid Mechanics, Heat Transfer, Liquid Propulsion System, and Launch and Flight Operations. Similarly, managers of subfunctions within a project reporting to the project manager should be assigned to the specialty appropriate for the work.

3. Project managers assigned to this specialty are responsible, personally or in directing others, for the following typical functions:

a. Determination of the project requirements by participating in committee and panel meetings with agency personnel.
b. Developing a staffing plan, establishing organizational and functional assignments, selecting and appointing personnel to key positions, and monitoring the position management and staffing plans.
c. Preparation of cost estimates for budget purposes.

d. Determination of the requirements for development work, support services, data handling and reduction, and launch and tracking and supporting services.
e. Preparation of schedules for the complete project and establishment of a system to review and maintain a record of the project's status.
f. Negotiation for service with other NASA and Government agencies to accomplish the project.
g. Determination, or assisting in the determination, of what phases of the project will be performed by contractors, and reviewing request for bids, contractors, proposals, and contract specifications.
h. Participation in design reviews, contract negotiations, and technical and business discussions with NASA Headquarters and contractors.
i. Continual review and assessment of the effectiveness of contractors in meeting the technical and administrative requirements of the contract.
j. Participation in project reviews and readjustment of money, schedules, and work for accomplishing the project.
k. Resolution of interface and integration problems relating tothe project and coordination of the several phases of the project.
l. Translation of program guidelines and functioning allocations into suitable statements of work for implementing project activity.

4. AST-Project Management positions have on their staffs subordinate positions which are responsible for discrete phases of the project, either technical, such as Control and Guidance Systems or functional, such as Flight Systems Test. Other subordinate positions may be responsible for experimental payloads or the research/science which the project is intended to conduct.

5. Work in this specialty requires the application of professional scientific knowledges and skills associated with the technical aspects of the project, coupled with managerial and supervisory skills required in developing project plans, resources and programming plans; developing and execution of budget plans; providing direction and guidance to supporting organizations and contractors; evaluating project progress and establishing schedules; performing supervisory and personnel management functions for staff reporting directly to the project office; and other related managerial functions.

# AST - Technical Management: 770-30
# OPM Title - Technical Management: GS-801-0

1. a. This specialty includes positions which are to advise on, coordinate, monitor, maintain surveillance over, supervise and/or perform a variety of technical managerial functions typically involving two or more areas of management functions such as Resources Analysis (770-32), Technical Management Systems (770-31), Technical Engineering Operations Management (770-34), or serving as assistant to a technical program or project manager or higher level line supervisor.

b.Although the word "management" generally implies supervision or direction, positions in this specialty normally do not exercise supervision or direction of technical programs. For the most part, these positions are engaged in activities which directly support the management process whether it be direct supervision of a line organization or direction of a contracted effort.

2. These positions require scientific and engineering knowledges, skills, and abilities.

NOTE: Positions which require competence in a definitive NASA 700 Group specialty, but the incumbents are incidentally concerned with the functions discussed above, should be classified to that other AST specialty.

# AST - Technical Management Systems: 770-31
# OPM Title - Technical Management Systems: GS-801-0

1. a.This specialty includes positions which are to advise on,coordinate, monitor, maintain surveillance over, supervise, or perform technical managerial functions typically relating to the design and revision, implementation, and maintenance of technical management systems, in-house and/or contractor systems such as Program Evaluation Review Technique (PERT), including the technical analysis and assessment of project status and the investigation of critical areas for the purpose of defining technical and administrative problems. These systems are designed to provide program and project managers with information to control and report on the status of the program or project and to highlight technical management problems.

b. Although the word "management" generally implies supervision or direction, positions in this specialty normally do not exercise supervision or direction of technical programs. For the most part these positions are engaged in activities which directly support the "management process" whether it be direct supervision of a line organization or direction of a contracted effort.

2. AST-Technical Management Systems (770-31) positions exercise and use professional engineering and scientific knowledges and skills in performing their management functions.

NOTE: Positions which require competence in a definitive AST specialty, but the incumbents are incidentally concerned with the functions discussed above, should be classified to that NASA 700 Group specialty. Positions in the NASA 600 Group primarily require knowledge and experience in the various theories and principles of management, and of the techniques used to gather, analyze, and evaluate information concerning the management process. Although AST-Technical Management Systems positions may perform duties concerned with administrative functions and processes, full knowledge of the procedures and techniques of these functions is not required.

# AST - Technical Resources Management: 770-32
# OPM Title - Technical Resources Management: GS-801-0

1. a. This specialty includes positions which are to advise on, coordinate, monitor, maintain surveillance over, supervise, orperform work in all phases of technical resources planning andprogramming, such as program or project planning, development, presentation, execution, analysis, coordination and forecasting, and technical management advisory services. Generally, the following functions are accomplished by positions in this specialty:

(1) Analysis and coordination of overall program or projectplans. (2) Evaluation of programmatic or project objectives, plans, and resources for compatibility with the overall program or project.
(3) Assessment of possible differences or changes in programcontent and recommending possible courses of action.
(4) Converts technical goals into budget and management terms.
(5) Evaluation of proposals with respect to resources feasibility and resources compatibility with indicated scope of work.
(6) Participating in assessing overall resources requirements that may be necessary for carrying out work through such phases as feasibility, definition, conceptual design, design development, test, evaluation, flight testing, and operational support.
(7) Planning work so that resources available are compatible with the schedules indicated.
(8) Preparing and/or coordinating preparation of programmatic or project and resources data including milestones, funding, and human resources for various management purposes, such as program reviews.

b. Employees in this specialty usually are identified with "line" management. They work with and for a manager to administer approved programs and determine technical resources requirements for planned programs or projects.

c. Although the word "management" generally implies supervision or direction, positions in this specialty normally do not exercise supervision or

direction of technical programs or projects. For the most part these positions are engaged in activities which directly support the "management process" whether it be direct supervision of a line organization or direction of a contracted effort.

2. These positions require the use of professional engineering knowledges and skills in performing their technical management functions.

NOTE: Positions which require competence in a definitive AST specialty, but the incumbents are incidentally concerned with the functions discussed above, should be classified to that AST specialty.

# AST - Physical Science Technical Resources Management: 770-33
# OPM Title - Physical Science Technical Resources Management: GS-1301-0

1. a. This specialty includes scientific specialist positions which are to advise on, coordinate, monitor, maintain surveillance over, supervise, or perform work in all phases of technical resources planning, and programming, such as program or project planning, development, presentation, execution, analysis, coordination, and forecasting, and technical management advisory services. Generally, the followingfunctions are accomplished by positions in this specialty:

(1)Analysis and coordination of overall program or project plans.
(2) Evaluation of programmatic or project objectives, plans, and resources for compatibility with the overall program or project.
(3) Assessment of possible differences or changes in program content and recommending possible courses of action.
(4) Converts technical goals into budget and management tares.
(5) Evaluation of proposals with respect to resources feasibility and resources compatibility with indicated scope of work.
(6) Participating in assessing overall resources requirements that may be necessary for carrying out work through such phases as feasibility, definition, conceptual design, design development, test, evaluation, flight testing, and operational support.
(7) Planning work so that resources available are compatible with the schedules indicated.
(8) Preparing and/or coordinating preparation of programmatic or project and resources data including milestones, funding, and human resources for various management purposes, such as program reviews.

b. Employees in this specialty usually are identified with "line" management. They work with and for a manager to administer approved programs and determine technical resources requirements for planned programs or projects.

2. These positions require the use of professional scientific knowledges and skills in performing their technical management functions.

NOTE: When positions require competence in a definitive AST specialty, but the incumbents are incidentally concerned with the functions discussed above, they should be classified to that AST specialty.

# AST - Technical Engineering Operations Management: 770-34
# OPM Title - Technical Engineering Operations Management: GS-801-0

1. a. This specialty includes positions which are to advise on, coordinate, monitor, maintain surveillance over, supervise and/or perform a variety of work typically involving the conduct of technical staff studies relating to such activities as advanced spacecraft, space missions, program concepts, technical trade-off analysis; the design, development, and adaptation of mathematical, statistical, economic, and other scientific methods and techniques to be used in the conduct of these studies and to provide insight about the technical feasibility, the technical justification and economic comparison of various engineering and scientific advanced concepts; the prediction of schedules for advanced programs; the conduct of cost-effectiveness, cost sensitivity, and schedule analysis; and so on.
b. Although the word "management" generally implies supervision or direction, positions in this specialty normally do not exercise supervision or direction of technical programs. For the most part, these positions are engaged in activities which directly support the "management" process whether it be direct supervision of a line organization or direction of a contracted effort.
2. These positions require the use of professional engineering and mathematical and statistical knowledges and skills in performing their management functions.
NOTE: Positions which require competence in a definitive AST specialty, but the incumbents are only incidentally concerned with the functions discussed above, should be classified to that AST specialty.

# AST - Life Sciences Technical Resources Management: 770-36
# OPM Title - Life Sciences Technical Resources Management: GS-401-0

1. a. This specialty includes scientific specialist positions in the life sciences which are to advise on, coordinate, monitor, maintain surveillance over, supervise, or perform work in all phases of technical resources planning and programming, such as program or project planning, development, presentation, execution, analysis, coordination, forecasting, and technical management advisory services. Generally, the following functions are accomplished by positions in this specialty:

(1) Analysis and coordination of overall program or project plans, and resources for compatibility with the overall program or project; evaluation of programmatic or project objectives, plans, and resources for compatibility with the overall program or project.

(2) Assessment of possible differences or changes in program content and recommending possible courses of action.

(3) Conversion of technical goals into budget and management terms.

(4) Evaluation of proposals with respect to resources feasibility and resources compatibility with indicated scope of work.

(5) Participation in assessing overall resources requirements that may be necessary for carrying out work through such phases as feasibility, definition, conceptual design, design development, test, evaluation, flight testing, and operational support.

(6) Planning work so that resources available are compatible with the schedules indicated.

(7) Preparing and/or coordinating preparation of programmatic or project and resources data including milestones, funding, and human resources for various management purposes, such as program reviews.

b. Employees in this specialty usually are identified with "line" management. They work with and for a manager to administer approved programs and determine technical resources requirements for planned programs or projects.

2. The work of these positions requires the use of professional scientific knowledges and skills in performing their technical management functions.

NOTE: This specialty includes positions that encompass resources management functions in connection with life sciences programs and activities. When positions require competence in a definitive AST specialty, but the incumbents are incidentally concerned with the functions discussed above, they should be classified to that AST specialty. Positions in the NASA 600 Group, primarily require knowledge and experience in the various theories, principles of accounting, budgeting, and other financial management principles and practices. Although AST-Life Sciences Technical Resources Management positions may perform duties concerned with resources and budgeting and accounting functions and processes, full knowledge of the procedures and techniques of those functions is not required. Although the word "management" generally implies supervision and direction, positions in this specialty normally do not exercise supervision or direction of technical programs or projects. For the most part, these positions are engaged in activities which directly support the Management process" whether it be direct supervision of a line organization or direction of contracted effort.

# AST - Technology Utilization: 770-40
# OPM Title - Technology Utilization: GS-801-0

1. a. This specialty includes positions engaged in the study and evaluation of engineering advances in aerospace research and development for the purpose of determining their maximum usefulness and applicability to industry, Government, and the public. This specialty also includes dissemination of the information as appropriate.
b. This work includes:
a. Overall short- and long-range planning; initiation of research, development, and operations programs in keeping with overall agency policy.
b. Evaluation and coordination of plans, programs, and budget levels.
c. Keeping abreast of the applicable science and technology.
d. Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
e. Providing guidance to centers.
f. Participating in Source Evaluation Boards or contractor design reviews.
g. Evaluating proposals for research grants.
h. Resolving development and operational problems resulting from multi-center participation.
i. Other matters related to the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. incumbents also serve on various boards and committees concerned with management of engineering programs.
2. The work requires professional engineering knowledges appropriate to the scope of the specific position.

# AST - Technology Utilization: 770-41
# OPM Title - Technology Utilization: GS-1301-0

1. a. This specialty includes positions engaged in the study and evaluation of scientific advances in aerospace research and development for the purpose of determining their maximum usefulness and applicability to industry, Government, and the public. This specialty also includes dissemination of the information as appropriate.

b. This work includes overall short- and long-range planning; initiation of research, development, and operations programs in keeping with overall agency policy; evaluation and coordination of plans, programs, and budget levels; keeping abreast of the applicable science and technology; coordination of the intercenter/interagency research, development, and operations programs to ensure thebest utilization of money, human resources, and facilities; providing guidance to centers; participating in Source Evaluation Boards or contractor design reviews; evaluating proposals for research grants; resolving development and operational problems resulting from multi-center participation; and other matters related to the assigned programs. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve onvarious boards and committees concerned with-management of science programs.

2. The work requires professional science knowledges appropriate to the scope of the specific position.

# AST - Tracking Station Management: 770-55
# OPM Title - Tracking Station Management: GS-801-0

1. a. This specialty includes positions which involve technical and administrative direction of spacecraft tracking and telemetry stations throughout the continental United States and in overseas locations. Typically, these stations are operated under contract, and in overseas locations this includes contracts with foreign governments to provide technical and other personnel. Positions in this specialty include:

(1) The supervision of contracted engineering and technical staff which installs, modifies, maintains, and operates the tracking, telemetry, and communications equipment and systems.

(2) The analysis of a variety of requirements for the station, such as communications, supply, transportation, living conditions, and housing.

(3) Consolidation of station operating requirements.

(4) Coordination of requirements within agency and with foreign governments in overseas locations.

# AST - Launch Site Support Management: 770-56
# OPM Title - Launch Site Support Management: GS-801-0

1. a. This specialty includes positions engaged in managing activities to support Shuttle or expendable vehicle payload processing at the launch site (Launch Site Support Process). This includes but is not limited to:

(1) Advising payload project management on the launch operations processes, policies, and concepts.

(2) Developing plans for and obtaining payload support services, facilities, equipment, and interface verification required at the launch site.

(3) Serving as the launch site focal point for payload projects relative to system design and processing, requirements, and integration into the launch system.

b. Incumbents of positions in this specialty normally do not require exercise of supervision or direction of technical programs. For the most part these positions are engaged in activities which directly manage the Payload Launch Site Support Process whether it is direct supervision of a line organization or direction of a contracted effort.

2. The knowledge required by incumbents of these positions includes a broad engineering background involving all disciplines, practices, and procedures associated with payload processing and launch preparations including the supporting equipment, facilities, and systems. In addition, the incumbents must have a thorough knowledge of launch center policies, regulations, and procedures associated with payload planning and processing.

# AST - Program Management: 770-60
# OPM Title - Program Management: GS-801-0

1. a. This specialty includes positions which are managerial in nature, but which are not classifiable in any other specialty area because of the broad nature of the work. The positions involve planning and coordination of aerospace programs in research, development, and operations.

b. The work includes:

(1) Overall short- and long-range planning.

(2) Initiation of research, development, and operations programs in keeping with overall agency policy.

(3) Evaluation and coordination of plans, programs, and budget levels.

(4) Keeping abreast of the applicable science and technology.

(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.

(6) Providing guidance to centers.

(7) Participating in Source Evaluation Boards or contractor design reviews.

(8) Evaluating proposals for research grants.

(9) Resolving development and operational problems resulting from multi-center participation and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of engineering programs.

2. The work requires professional engineering knowledges and skills appropriate to the scope and subject matter of the specific position.

NOTE: This specialty should be used only in those rare instances where a position cannot be otherwise classified to one of the established specialties in this subgroup, e.g., Data Systems Program Management. The specialized and unique engineering knowledges and skills required should be reflected in an appropriate prefix to the basic Program Management title, e.g., Space Station Program Management.

# AST - Program Management: 770-61
# OPM Title - Program Management: GS-1301-0

1. a. This specialty includes positions which are managerial in nature, but which are not classifiable in any other specialty area because of the broad nature of the work. The positions involve planning and coordination of aerospace programs in research, development, and operations.

b. The work includes:

(1) Overall short-and long-range planning.

(2) Initiation of research, development, and operations programs in keeping with overall agency policy.

(3) Evaluation and coordination of plans, programs, and budget levels.

(4) Keeping abreast of the applicable science and technology.

(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.

(6) Providing guidance to centers.

(7)Participating in Source Evaluation Boards or contractor design reviews.

(8) Evaluating proposals for research grants.

(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and

ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of science programs.

2. The work requires professional scientific knowledges and skills appropriate to the scope and subject matter of the specific position.

NOTE: This specialty should be used only in those rare instances where a position cannot be otherwise classified to one of the established Program Management specialties in this subgroup, e.g., 770-62, Space Sciences Program Management. The specialized and unique scientific and engineering knowledges and skills required should be reflected in an appropriate prefix to the basic Program Management title, e.g., XYZ Program Management.

# AST - Space Sciences Program Management:

# 770-62

# OPM Title - Space Sciences: GS-1301-0

1. a. This specialty includes positions which involve planning and coordination of programs in research, development, and utilization of all materials and instrumentation, including remote sensing, related to space science. These positions span a wide range of scientific disciplines related to the study of the planets, moons, planetary atmospheres, sun, stars, and interplanetary media. Included in these disciplines would be comparative planetology, solar physics, space plasma physics, magnetospheric physics, and other space science discipline studies.

b. This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in accordance with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of intercenter/interagency and operations programs to ensure the best human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of space sciences programs.

2. Incumbents in these positions utilize professional scientific knowledges in such fields as physics, meteorology, astronomy, astrophysics, and mathematics.

# AST - Earth Sciences Program Management: 770-63
# OPM Title - Earth Sciences Program Management: GS-1301-0

1.a. This specialty includes positions which involve planning and coordination of aerospace programs in research, development, and operation of missions and instrumentation for understanding the characteristics and processes of the Earth, its atmosphere and magnetosphere. It involves definition and implementation of programs dedicated to the advancement of knowledge in the biological, physical, and chemical science disciplines. Programs delineated utilize satellite missions for acquisition of in situ and remotely sensed data as an input for analysis and interpretation. Included in these disciplines would be meteorology, atmospheric chemistry, oceanography, geodynamics, geology, forestry, agriculture, biology, magnetospheric physics, and related Earth sciences. It also includes interpretation, analysis and application of data obtained through remote sensing in the biological, physical, and chemical science disciplines.

b. This work includes:

(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in accordance with agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of Earth sciences programs.

2. Incumbents in these positions utilize professional physical science knowledges in combination with other life or natural sciences.

# AST - Life Sciences Program Management: 770-64
# OPM Title - Life Sciences Program Management: GS-401-0

1. a. This specialty includes positions which involve planning and coordination of programs in research, development, and utilization of all materials and instrumentation pertaining to the nature and origin of life in the universe, the effects of space environmental stresses upon living organisms, and the effects of space stresses upon human beings.

b. This work includes:

(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met.Incumbents also serve on various boards and committees concerned with management of science programs.

2. Incumbents in these positions require use of professional scientific knowledges in such fields as biochemistry, biology, chemistry, physiology, and medicine.

# AST - Fluid and Flight Mechanics Program Management: 770-65
# OPM Title - Aerospace Engineer: GS-861-0

1. a. This specialty includes positions that are involved in planning and coordination of programs engaged in research, development, test and evaluation in the area of fluid and flight mechanics pertaining to aerospace vehicles.
b. Activities include investigations of such effects on aerospace vehicles as force and motion mechanics, wind tunnel testing, computational analysis of fluid flow phenomena, effects of ionized gas, trajectory analysis, and effects of structural vibration and noise. This work includes:

(1) Overall short- and long-range planning.
(2) Initiation of research, development, and test programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable technology.
(5) Coordination of the intercenter/interagency research, development, and operations-programs to ensure utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation orchids or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of engineering programs.

2. These positions require use of professional knowledges and experiences in such fields as engineering, aeronautics, astronautics, electronics, mathematics, and physics.

# AST - Materials and Structures Program Management: 770-66
# OPM Title - Aerospace Engineer: GS-861-0

1. a. This specialty includes positions which involve planning and coordination of programs in research, development, design, manufacture, processing, testing and/or analysis of (1) metallic and nonmetallic materials for use in aerospace systems and vehicles, and (2) the effects of aerospace environments, loads and stresses, and dynamic response on structures and materials. The types of materials and processes include, but are not limited to, aerospace alloys, polymers, ceramics and glasses, intermetallics, composites, crystal growth, solidification, and tribology.
b. The work itself includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure maximum utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to assigned programs.
c.Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, establishing priorities, and assuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of materials and structures programs.
2. Incumbents in these positions require use of professional scientific and engineering knowledges with emphasis in aeronautical and astronautical engineering, chemistry, materials science and engineering, physics, mechanical engineering, ceramics, metallurgy, and other appropriate fields.

# AST - Propulsion Systems Program Management: 770-67
# OPM Title - Aerospace Engineer: GS-861-0

1. a. This specialty includes positions which involve planning and coordination of aerospace programs in research, development, and operation of propulsion systems, including air-breathing propulsion, liquid propulsion systems, solid propulsion systems, electrical propulsion and power, and nuclear propulsion and power, in combination with each other and any other propulsion systems.
b. This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met.Incumbents also serve on various boards and committees concerned with management of propulsion programs.
2. Incumbents in these positions require use of professional engineering knowledges with emphasis in aeronautical and astronautical systems and design, aerodynamics, thermodynamics, combustion, structural dynamics, flight dynamics and operations, and propulsion; a knowledge of major management techniques is also required.

# AST - Flight Systems Program Management: 770-68
# OPM Title - Aerospace Engineer: GS-861-0

1. a. This specialty includes positions which involve planning and coordination of programs-engaged in research, development, design, test, and evaluation of aerospace flight vehicles and component subsystems, including stages, propulsion, control and guidance, data management and software, structure, and payloads; or related external systems such as ground support, command, and telemetry. This specialty also includes management of flight hardware programs for acquisition of data for research in a science or technology programs.

b. This work includes:

(1) Overall short- and long-range planning.

(2) Initiation of research, development, and operations programs in keeping with overall agency policy.

(3) Evaluation and coordination of plans, programs, and budget levels.

(4) Keeping abreast of the applicable science and technology.

(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.

(6) Providing guidance to centers.

(7) Participating in Source Evaluation Boards or contractor design reviews.

(8) Evaluating proposals for research grants.

(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.

c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met.Incumbents also serve on various boards and committees concerned with management of flight systems programs.

2. Incumbents in these positions require use of professional scientific and engineering knowledges in aeronautical, astronautical, and aerospace engineering, astrophysics, chemical engineering, electronics engineering, materials science, applied mechanics and mechanical engineering, and metallurgy.

# AST - Measurement and Instrumentation Systems
# Program Management: 770-69
# OPM Title - Electronics Engineer: GS-855-0

1. a. This specialty includes positions which involve planning and coordination of programs in research, development, and utilization of all materials and instrumentation pertaining to systems or techniques for detecting, computing, recording, and measuring physical conditions, environments, and space phenomena. Also included are communications, control, test, and calibration operations related to space and ground systems.
b. This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met.Incumbents also serve on various boards and committees concerned with management of engineering programs.
2. Incumbents in these positions require use of professional scientific and engineering knowledge's in such fields as mechanical engineering, physics, optics, electrical engineering, and electronics engineering.

# AST - Data Systems Program Management: 770-70
# OPM Title - Electronics Engineer: GS-855-0

1. a.This specialty includes positions which involve planning and coordination of aerospace programs in research, development, and operation of data handling and computing equipment (hardware), and systems for reducing and computing data (software), or simulating aerospace conditions by use of mathematical models.
b. This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters relatedto the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met.Incumbents also serve on various boards and committees concerned with management of engineering or science programs.
2. Incumbents of these positions apply professional scientific and engineering knowledges with emphasis in computer engineering, computer science, and applied mathematics.

# AST - Facilities Program Management: 770-71
# OPM Title - Facilities Program Management: GS-801-0

1. a. This specialty includes positions which involve planning and coordination of aerospace programs in research, development, design, test construction, and evaluation of facilities, systems, and equipment in support of aerospace research, development, test, and operations.
b.This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science andtechnology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of engineering programs.
2. Incumbents of these positions require use of professional conventional engineering knowledges with emphasis in such fields as mechanical, civil, electrical, electronics, aerospace, industrial and chemical engineering.

# AST - Telecommunications Program Management: 770-72

# OPM Title - Electronics Engineer: GS-855-0

1. a. This specialty includes positions which involve development and design, utilization, and operational control of aerospace communications systems and facilities. These systems are used for ground-to-ground transmitting and receiving of experimental data, command control, and observation of aerospace operations. The systems involve a variety of communications techniques and equipment, such as all types of radio systems, television, voice systems, wire communications, data handling and processing equipment. These positions are concerned with the development of communications networks and facilities to support aerospace programs, and may also establish, arrange, and direct operating procedures and schedules to provide communications support of aerospace operations.
b. This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research, development, and operations programs to ensure the best utilization of money, human resources, and facilities.
(7) Providing guidance to centers.
(8) Participating in Source Evaluation Boards or contractor design reviews.
(9) Evaluating proposals for research grants.
(10) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of engineering or science programs.
2. Incumbents in these positions require use of professional scientific and engineering knowledges and experience in aerospace telecommunications research, development, and operations.

# AST-Advanced Technology Program Management 770-73
# OPM Title: Advanced Technology Program Management GS-801-0

1. a. This specialty includes positions which involve planning and coordination of programs in the research and development ofconstantly evolving engineering technology which is in the forefront of the state-of-the-art.
b. This work includes:
(1) Overall short- and long-range planning.
(2) Initiation of research, development, and operations programs in keeping with overall agency policy.
(3) Evaluation and coordination of plans, programs, and budget levels.
(4) Keeping abreast of the applicable science and technology.
(5) Coordination of the intercenter/interagency research and development programs to ensure the best utilization of money, human resources, and facilities.
(6) Providing guidance to centers.
(7) Participating in Source Evaluation Boards or contractor design reviews.
(8) Evaluating proposals for research grants.
(9) Resolving development and operational problems resulting from multi-center participation, and other matters related to the assigned programs.
c. Implicit in these positions is the responsibility for a wide range of management concerns, including preparing and/or evaluating budgets, defending budgets to top management, and establishing priorities and ensuring that deadlines are met. Incumbents also serve on various boards and committees concerned with management of engineering programs.
2. Incumbents in these positions require engineering knowledges and skills appropriate to the scope and subject matter of the specific position.

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*Responsible Official: Stephan C. Golis, NASA HQ*